

CLAIMS

1. A method for producing micromachined devices for use in Microelectromechanical Systems (MEMS), comprising the steps of:

- 5        providing a crystalline wafer with a front plane,  
          processing from said wafer at least one micromachined device comprising at least one elongated opening or cavity, the opening or cavity having a longitudinal axis, so that an angle is formed by said longitudinal axis and a line formed by intersection of the front plane of the wafer and a cleavage plane, said cleavage plane being defined as a  
 10       plane along which cleavage of the wafer is most likely to occur.

2. A method according to claim 1, wherein said wafer has a shape of a circular disc, with at least one part cut off along a chord of said circular disc, the longest of said chords being a flat of said wafer.

3. A method according to claim 2 wherein said flat is not parallel  
 15       to said intersection.

4. A method according to claim 2, wherein said flat is parallel to said intersection.

5. A method according to claim 4,  
          wherein said wafer has a back plane,  
 20       wherein said wafer is a silicon wafer, whose front and back planes are oriented along a plane of the {100} family, and  
          wherein said cleavage plane is a plane belonging to the {111} family.

6. A method according to claim 5, wherein said angle is less than  
 25       45°.

7. A method according to claim 4, wherein said wafer is a silicon wafer, whose front and back surfaces are oriented along a plane of the {100} family and wherein said cleavage plane is a plane belonging to the {110} family.

8. A method according to claim 7, wherein said angle is less than  
 30       45°.

9. A method according to claim 4, wherein said processing comprises the steps of:

subjecting said wafer to a photolithography step, whereby a pattern is printed through a mask onto said wafer; and

etching said wafer,

characterised in that said photolithography step comprises the step of rotating said mask  
5 over an angle with respect to said wafer.

10. A method according to claim 9, wherein said photolithography step comprises a contact printing step.

11. A method according to claim 9, wherein said photolithography step comprises a proximity printing step.

12. A method according to claim 4, wherein said processing  
10 comprises the steps of:

subjecting said wafer to a photolithography step, whereby a pattern is printed through a mask onto said wafer;

etching said wafer,

15 wherein said pattern is positioned at an angle with respect to said mask.

13. A method according to claim 12, wherein said photolithography step comprises a contact printing step.

14. A method according to claim 12, wherein said photolithography step comprises a proximity printing step.

15. A method according to claim 4, wherein said processing  
20 comprises the steps of:

subjecting said wafer to a photolithography step, whereby a pattern is printed through a mask onto said wafer;

etching said wafer,

25 characterised in that said photolithography step comprises the step of rotating said wafer over an angle with respect to said mask.

16. A method according to claim 15, wherein said photolithography step comprises a contact printing step.

17. A method according to any claim 15, wherein said  
30 photolithography step comprises a proximity printing step.

18. A method according to claim 3, wherein said processing comprises the steps of:

subjecting said wafer to a photolithography step, whereby a pattern is printed through a mask onto said wafer,

etching said wafer.

19. A method according to claim 18, wherein said  
5 photolithography step comprises a number of projection printing steps.

20. A method according to claim 18, wherein said photolithography step comprises a contact printing step.

21. A method according to claim 18, wherein said photolithography step comprises a proximity printing step.

10 22. A micromachined device for use in Microelectromechanical Systems, said device being produced according to the method described in claim 1.

23. Use of a micromachined device in Microelectromechanical Systems, said device being produced according to the method  
15 described in claim 1.